What is claimed is:

- 1. A method for modulating endoreduplication in a plant or part thereof which comprises modifying expression or activity of E2Fa.
- 2. A method for modulating endoreduplication in a plant or a part thereof which comprises modifying expression or activity of E2Fa and DPa.
- The method of claim 1 wherein E2Fa is overexpressed in said plant or plant part.
- 4. The method of claim 2 wherein E2Fa and DPa are overexpressed in said plant or plant part.
 - 5. A plant cell which overexpresses a native *E2Fa* gene.
 - 6. A transgenic plant cell comprising an *E2Fa* transgene.
- 7. A plant cell selected from the group consisting of a plant cell which overexpresses a native E2Fa gene and a native DPa gene, a plant cell which expresses an E2Fa transgene and a DPa transgene, a plant cell which expresses an E2Fa transgene and overexpresses a native DPa gene, and a plant cell which overexpresses a native E2Fa gene and expresses a DPa transgene.
 - 8. A plant or part thereof comprising plant cells according to claim 5.
 - 9. A plant or part thereof comprising plant cells according to claim 6.
 - 10. A plant or part thereof comprising plant cells according to claim 7.
- 11. The plant or part thereof according to claim 8 which exhibits modulated endoreduplication.
- 12. The plant or part thereof according to claim 9 which exhibits modulated endoreduplication.
- 13. The plant or part thereof according to claim 10 which exhibits modulated endoreduplication.

- 14. Progeny of the plant of claim 8.
- 15. Progeny of the plant of claim 9.
- 16. Progeny of the plant of claim 10.
- 17. Plant material obtained from the plant of claim 8 or 11.
- 18. Plant material obtained from the plant of claim 9 or 12.
- 19. Plant material obtained from the plant of claim 10 or 13.
- 20. The plant material according to claim 17 comprising at least one of flowers, fruit, leaves, pollen, seeds or tubers.
- 21. The plant material according to claim 18 comprising at least one of flowers, fruit, leaves, pollen, seeds or tubers.
- 22. The plant material according to claim 19 comprising at least one of flowers, fruit, leaves, pollen, seeds or tubers.

